

# MAG<sup>X</sup>2

## First Installation Guide & Troubleshooting



### Arkon Flow Systems

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## 1 SENSOR SOAKING

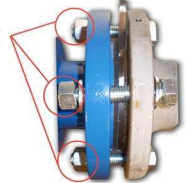
Before first installation soak the sensor liner for 24 hours



Soaking of the sensor under operational conditions with a wetted full pipe



Nuts and bolts must be tightened correctly

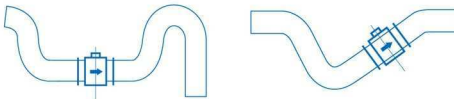


## 2 SENSOR INSTALLATION

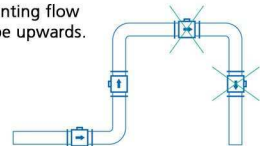
Electromagnetic flowmeters only work correctly under certain determined conditions. For our right to guarantee the product, all those conditions have to be met in all applications. Those conditions are achieved by the correct installation of the sensor.

**Flowmeter sensor must always remain full of liquid.**

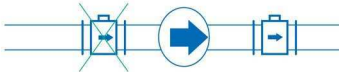
For horizontal mounting locate the sensor in a low section of the pipe.



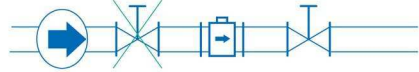
For vertical mounting flow direction must be upwards.



For installations with pumps, never install the sensor on the suction side of the pump.

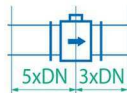


For installations with valves, correct location for the valve is downstream of a sensor.

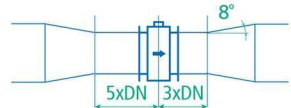


**Laminar flow is required to guarantee the accuracy of the readings.**

Sensor must be installed in a section of straight pipe with minimum 5 times the pipe diameter upstream and 3 times downstream.



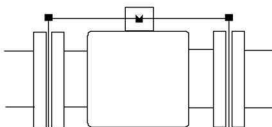
When using pipe reducers, they have to be installed before and after the straight pipe section. The angle of the slope of the reducer should not exceed 8°.



## 3 GROUNDING

a) PLASTIC PIPE (Grounding with earthing rings)

Ensure continuity of earth between sensor, ring, pipe and liquid



Washers must be used for earthing ring installations

You must use a conductor with a minimum cross-section of 1,5 mm of Copper wire for all grounding.

Nuts and bolts must be tightened using a spanner. Finger tight has no effect

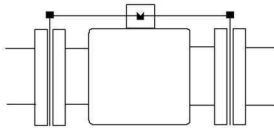


Earthing rings must be used for plastic pipe installation



Remember to connect the main grounding cable to the sensor neck

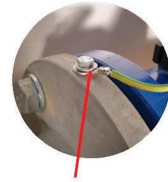
## b) CONDUCTIVE PIPE (Grounding without earthing rings)



Contact point must be properly cleaned from rust, paint, etc.

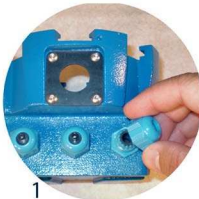


See also the installation/operational manual

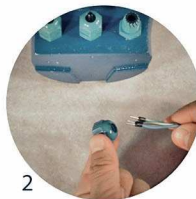


## 4 CABLE CONNECTION

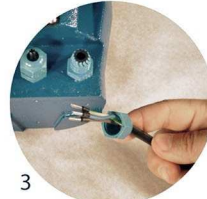
### a) Connection of power supply



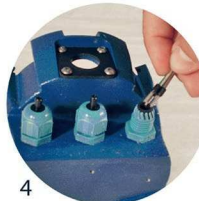
1  
Unscrew blue cable gland



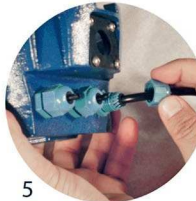
2  
Pass the cable through screw female part of the cable gland



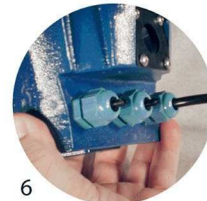
3  
a) You must use a cable with a round cross-section  
b) You must use a cable with 3 conductors (twin and earth)



4  
Pull the cable through the cable gland by the insulation



5  
The overall insulation of the cable must be inside the housing to guarantee proper sealing of the cable gland



6  
Screw the female part to cable gland





The female part must be properly tightened with a spanner or similar

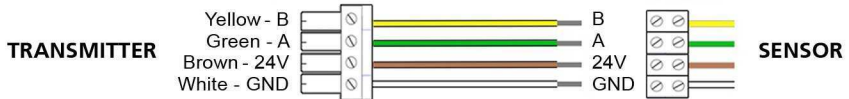


All three power supply conduct must be properly tightened

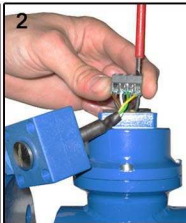


Warning: connection between the power supply module and the motherboard is protected with a lock

## b) Connection of sensor



Preparing connections



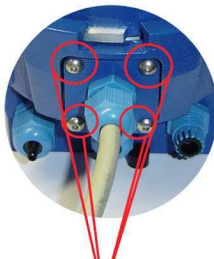
Connecting cables

Close the terminal box



Tightly secure the terminal box

## Transmitter part

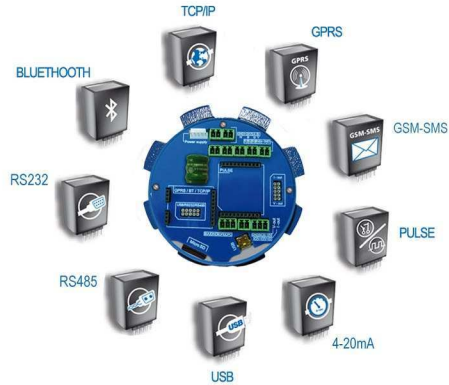


All connections must be properly tightened



Connection to motherboard

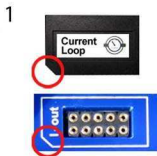
## 5 INSTALLATION OF MODULES



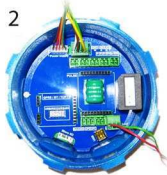
Each module has its own slot in motherboard

### Example of installation: 4-20mA Current Loop Module

Each module has visual lock



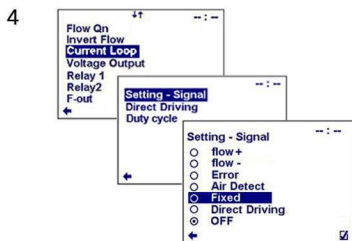
Correct module installation



Cable connection



Cable connection to the module



Setup in user menu, current loop and confirm



Go to setting signal and confirm



Go to fixed to make verification (10mA), and confirm



If 4-20mA Current Loop module is connected correctly, you can measure ~10mA on Output

## 6 CABLE, SD CARD AND ANTENNA CONNECTION

### Connection to PC by cable and SD card connection

Unscrew left and right blind ports



For connecting the cable to the transmitter use the left blind port



For connecting SD card to the transmitter use the right blind port



### Connection of antenna (for Bluetooth, GPRS, GSM-SMS modules)



Unscrew the blind port



Screw the antenna and connect antenna to module

### Connection to PC via RS232 module



Connect cable to PC to serial RS232 communication port

### Connection to PC via USB module



Connect transmitter to PC with standard USB cable

## 7 THE FIRST POWERING UP OF THE FLOWMETER



After switching on the transmitter the display should appear like this



After switching on, run automatic electrode cleaning for about 5 minutes



- ☒ Set up in user menu-electrode cleaning and confirm
- ☒ Go to clean time and confirm
- ☒ Set up 300s and confirm
- ☒ Go to start now and confirm
- ☒ Set up confirmation and confirm, then go back to main display



## Contact Support

### Information required:

Serial number of the flowmeter, FW version, SW version, fault description, photos of installation (if applicable).

### Technical support:

### Windows Live Messenger:

### Telephone:

support@arkon.co.uk

support@arkon.co.uk

+420 543 214 822

